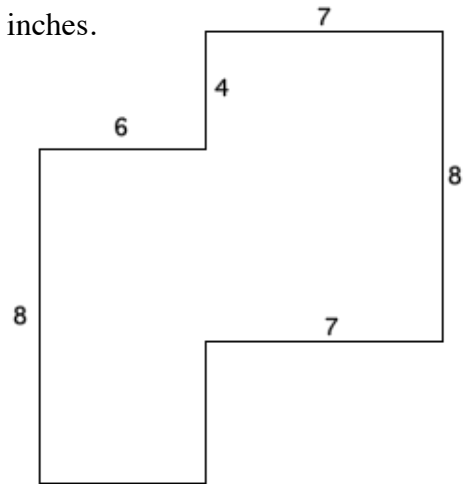


**For each question, you need to find the answer and show your work. Each problem is worth 3 points: one for the correct answer and two for showing your work. For some problems, you may just need to write out how you know you have the correct answer.**

1. Find the perimeter of the figure. All measurements are in inches.



2. To the nearest inch, how far does a bicycle wheel with a radius of 17 in. travel in one turn?
3. A circular arena is 250 meters across its widest part. What is the circumference of the arena to the nearest meter?
4. The circumference of a circle is 20 units. What is its diameter in terms of  $\pi$ ? Use a formula!

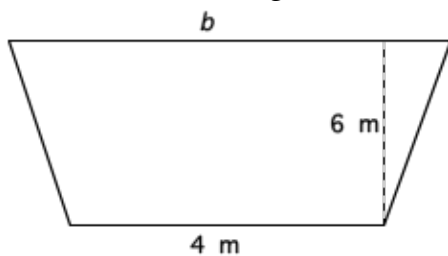
5. The length of each side of a square is 9 cm. If each side is multiplied by 3, what is the perimeter of the new figure?

6. A rectangle measures 8 m by 10 m. If each side is quadrupled, what is the perimeter of the new figure?

7. A rectangular dog run is 21 ft long by 15 ft wide. If only the width is doubled, how many times greater is the area?

8. A semicircular mat has a diameter of 16 feet. What is the area of the semicircle?

9. If the area of this figure is  $39 \text{ m}^2$ , what is the length of side  $b$ ?



10. Using the figure from problem 9, if the height is doubled, what will be the effect on the area of the figure?

**Open-Ended Question: You may answer this question on this paper. Make sure as you answer the open-ended question that you show your work AND explain how you know you are doing the correct work. YOU MUST EXPLAIN WHAT YOU ARE DOING!!!**

A triangle has an area of  $48 \text{ ft}^2$ .

A. What is one possible combination of the base and height of this triangle?

B. If the base of the triangle is doubled, but the altitude (height) is unchanged, what is the new area?